REMARKS:

Reconsideration is respectfully requested for the following reasons.

Interview summary

Applicant thanks Examiners Anderson and Spivak for the personal interview held on February 7, 2007. During the interview, it was agreed that a declaration from the inventor would be filed to show the unexpected nature of the claimed methods. Further, the Examiners commented on the scope of the term "a tumor." In this reply, Applicant will address the scope of the term "a tumor."

IDS

Applicant submits a supplemental IDS. Applicant notes that the reference #1 in the PTO form 1449 is the reference disclosed in PTO-892. Further, Applicant notes that the copies of Abstracts of the references #1-5 were disclosed in the parent application. Applicant submits the full copies of the references are provided here for consideration by the Examiner.

Rejections under 35 USC 112, second paragraph

Claims 22-42 were rejected under 35 USC 112, second paragraph, as being indefinite. Particularly, "a tumor", "effective amount," "a subject," and "effective level," in claims 22 and 32, "said radiation source" in claims 30 and 40 and "said radionuclide" in claims 31 and 41 were pointed out. Applicant submits that the current claims 22-24, 28-33 and 39-48 overcome the rejection.

Rejections under 35 USC 103

Claims 22-42 were rejected under 35 USC 103 as being obvious over Greer, Nagatake and Shepherd.

As an initial matter, Applicants note that claim 22 as amended is drawn to a method of treating a human tumor in a patient in need of such treatment and claim 32 as amended is drawn to a method of treating a human cancer patient. Further, both claims 22 and 32 explicitly recite that "none of PALA, FdC, 4-N-methyl FdC and FdU is administered to the patient."

As explained in paragraph 4 of the declaration of the inventor Dr. Greer, the Greer reference strongly teaches (and requires) the use of PALA and FdC (or FdU) as a pretreatment step in the method of treating neoplastic tissue in a patient by administering CldC and H4U to and irradiating the patient. Nagatake and Shepherd do not have anything to teach or suggest as to whether or not eliminating the pretreatment step of the method of treating a tumor in a patient of the Greer reference would render the method of the Greer reference inoperable.

Rather, as explained in paragraphs 6-9 of the declaration, a person having ordinary skill in the art would have thought the protocol of the Greer reference, using CldC, H4U, PALA and FdC would be not amenable to modifications, and a radiation therapy regimen employing CldC and H4U but excluding PALA and FdC would not be clinically useful. Therefore, a person having ordinary skill in the art would have ended up with the exact problem as described in the present application, page 1, the third full paragraph, and paragraph 7 of the declaration.

In view of the strong teaching of the Greer reference to use all of CldC, H4U, PALA and FdC, and published unsuccessful attempts to simplify the regimen (paragraph 8 of the declaration), particularly indicating the unsuccessful attempt of developing a radiation therapy regimen employing CldC and H4U but excluding PALA and FdC, a person having ordinary skill in the art would not have had any reasonable expectation that such a regimen would be effective to treat a human cancer patient. Therefore, Applicant submits that all currently pending claims overcome the outstanding obviousness rejection.

Further, Applicant notes that new claim 43 is further distinguished from prior art by reciting "about 3 fold," and claims 44 and 47 are further distinguished from prior art by reciting "delivered in fractions."

Claims 22, 23, 25-27, 29, 32, 33, 35-37, 39 and 42 were rejected under 35 USC 103 as being obvious over Russell and Nagatake.

As previously noted above, claim 22 as amended is drawn to a method of treating a human tumor in a patient in need of such treatment and claim 32 as amended is drawn to a method of treating a human cancer patient. Further, both claims 22 and

32 explicitly recite that "none of PALA, FdC, 4-N-methyl FdC and FdU is administered to the patient."

As explained in paragraphs 5-6 of the declaration, at the time of filing, one skilled in the art reviewing the Russell reference would have thought that there is no benefit in adding H4U to a radiation therapy regimen employing only CldC. Further, the person would have known the fact that cytidine derivatives were quite unfavorably evaluated by prominent oncologists (the Kinsella publication, see paragraph 6 of the declaration). Moreover, the person, as explained in paragraph 4 of the declaration, would have known that the Greer reference strongly teaches (and requires) the use of PALA and FdC (or FdU) as a pretreatment step in the method of treating neoplastic tissue in a patient by administering CldC and H4U to the patient and irradiating the patient. The person would also have thought that, as explained in paragraphs 6-9 of the declaration, the radiation therapy regimen using all of CldC, H4U, PALA and FdC was not amenable to modifications, and a radiation therapy regimen employing CldC and H4U but excluding PALA and FdC would not be clinically useful.

Therefore, despite knowledge about the Russell reference, a person having ordinary skill in the art would still have ended up with the exact problem as described in the present application, page 1, the third full paragraph, and paragraph 7 of the declaration because the Russell reference does not teach or suggest anything that may contradict the then-generally accepted proposition that a radiation therapy regimen employing CldC and H4U but excluding PALA and FdC would not be clinically useful (in view of the Greer reference and the Kinsella publication as well as Dr. Greer's other publications). See paragraph 8 of the declaration. The Russell reference rather teaches or suggests that adding H4U to a radiation therapy regimen employing only CldC has no point because one would have thought such addition will only increase the potential risk of increased cytotoxicity and complexity of the regimen without any improvement in efficacy of radiosensitization. See paragraphs 5-7 of the declaration. Thus, Applicant submits that all currently pending claims overcome the outstanding obviousness rejection.

Further, Applicant notes that new claim 43 is further distinguished from prior art by reciting "about 3 fold," and claims 44 and 47 are further distinguished from prior art by reciting "delivered in fractions."

Double patenting

Claims 22-31 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,933,287. Applicant submits that claims 22-31 as amended (particularly reciting "comprising ... wherein none of PALA, FdC, 4-N-methyl FdC and FdU is administered...") overcomes the rejection.

The scope of "a tumor"

Although Applicant did not receive an official rejection based on the scope of the term "a tumor", the Examiners raised concern about the term during the personal interview, and since Applicant wishes to expedite the prosecution of the present application, Applicant comments on the issue. The Examiner's concern was whether or not the method would work for all kinds of tumors.

In response, Applicant submits that, as explained in paragraphs 12-14, the present application enables one skilled in the pertinent art to make and use the claimed method. Applicant submits that, in terms of making and using the claimed method, one only has to administer CldC and H4U to a patient and expose the patient to radiation. There is no reason why one cannot conduct such administration and exposure. Insomuch as the term "effective" is concerned, Applicant submits that the present application shows that the claimed methods work for prostate cancers, and provides a convincing reason, based on the underlying mechanism, why one would expect that the result obtained with regard to human prostate cancer patient models would be applicable to human cancer patients of different cancer types. See paragraphs 12-15 of the declaration.

Further, it is noted that support for "gene silencing" (claims 55 and 58) can be found at pages 13, line 9-page 14, line 18, and support for "elevated enzyme activities ..." can be found at page 13, lines 2-9 and page 27, lines 11+ of the present application.

In view of the foregoing, it is submitted that all pending claims are patentable, and reconsideration and allowance of the application is respectfully requested. The Director is authorized to charge any fees or overpayment to Deposit Account No. 02-2135.

Respectfully submitted,

By _____

Hyunkweon Ryu
Attorney for Applicant
Registration No. 58,283
ROTHWELL, FIGG, ERNST & MANBECK, P.C.
Suite 800, 1425 K Street, N.W.
Washington, D.C. 20005
Telephone: (202)783-6040
Facsimile: (202)783-6031

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